CLAIMS

1. A digital transcoding system for receiving data bit streams with a first bit rate (R1) and outputting a data bit stream with a second bit rate (R2), which differs from the first bit rate (R1) and in particular is reduced relative thereto, comprising on its input side a decoding device (10), which has an input buffer (11) and a series-connected VLD decoder (12), also, on its output side, a coding device (20), which has a series circuit consisting of a quantizer (21) for requantizing with a requantization factor the data that have been dequantized in the decoding device (10), a subsequent VLC coder (22), and an output buffer (23), wherein to adjust the second bit rate (R2), the new DCT coefficients QF_{new}, which are to be conducted to the VLC coder (22), are determined with reference to macro-blocks, in accordance with the following formula:

$$QF_{new}[v][u] = QF_{old}[v][u] \cdot \frac{qs_{old}}{qs_{new}},$$

where qs_{old} stands for the old quantization factors, and qs_{new} for the new ones, and where QF_{old} stands for the DCT coefficients at the output of the VLD decoder (12).

2. The digital transcoder system of claim 1, wherein the value QS_{new} can be adjusted manually or by a control algorithm

3. The digital transcoder system of claim 1, wherein the value of the requantization factor qs_{new} is determined, with reference to macro-blocks, in according with the following requantization

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3   formula:

$$qs_{new}[i] = S \bullet \left((1 - R)\frac{r^{in}}{r^{out}} qs_{old}[i] + R \bullet A \right),$$

4   where S, A, and R are prescribed correction factors, r^{in} is the determined bit rate of the received data

5   bit stream (R1), and r^{out} is the desired output bit rate (R2) of the transcoded data bit stream.

1   4.   The digital transcoder system of claim 1 comprising a common stage (40) with a multiplier

2   (41), which receives the value QF_{old} from the VLD decoder (12) and also the quotient qs_{old}/qs_{new}, and

3   in that the output of the multiplier (41) is connected, via a float-/integer-stage (42) to the input of the

4   VLC coder (22).

1   5.   The digital transcoder system of claim 4, wherein the value qs_{old} is determined from the input

2   data stream (R1).

1   6.   The digital transcoder system of claim 5, wherein the VLC coder (22) inserts the unchanged

2   motion data from the input data bit stream (R1) into the transcoded bit stream.

1   7.   The digital transcoder system of claim 6, comprising a device (51) for determining a target

2   data quantity (j) per picture or per reference object, and in that this device (51) is connected to a

3   scene section detection device (55), which detects scene sections in the picture, and an average value

4   for the requantization factors of a previous picture of the same picture type, and a value for the

5   number of bits that were generated in the transcoding of the immediately preceding picture are
6   inputted as further control variables. [sic]

1   8.   The digital transcoder system of claim 7, wherein the requantization factor qs_{new} can also be
2   changed in terms of the number of macro-blocks per received picture and in terms of the picture
3   refresh frequency in the received data bit stream.

1   9.   The digital transcoder system of claim 8, comprising a monitoring device (56) to monitor
2   overflow or underflow of a VBV memory (57).

1   10.   The digital transcoder system of claim 9, wherein the second bit rate (R2) is set constant
2   independent of a variability of the first bit rate (R1).

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